



TENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference LAM1P098.W0	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 99/ 30739	International filing date (day/month/year) 22/12/1999	(Earliest) Priority Date (day/month/year) 28/12/1998
Applicant LAM RESEARCH CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

3
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/30739

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01J37/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2 251 977 A (APPLIED MATERIALS INC) 22 July 1992 (1992-07-22) page 8, line 1 -page 9, line 19; figure 1	1,4,5,7, 9,24
Y	US 5 534 751 A (LENZ ERIC HOWARD ET AL) 9 July 1996 (1996-07-09) column 4, line 46 -column 6, line 15; figure 1	1,4,5,7, 9,24
A	EP 0 821 395 A (TOKYO ELECTRON LTD) 28 January 1998 (1998-01-28) column 4, line 20 -column 7, line 49; figures 1,2,4 ----- -/-	1,2,4, 14,15, 24,27



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

16 May 2000

Date of mailing of the international search report

23/05/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Schaub, G

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/30739

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 814 495 A (APPLIED MATERIALS INC) 29 December 1997 (1997-12-29) page 9, line 50 -page 11, line 54; figures 3-6 -----	1,24
A	EP 0 678 903 A (TEL YAMANISHI KK ;TOKYO ELECTRON LTD (JP)) 25 October 1995 (1995-10-25) column 19, line 45 -column 21, line 40; figures 29-33 -----	1,24

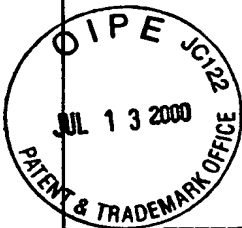
INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/30739

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2251977	A	22-07-1992	US 5312778 A	17-05-1994
			JP 4287318 A	12-10-1992
US 5534751	A	09-07-1996	CN 1148105 A	23-04-1997
			EP 0753881 A	15-01-1997
			JP 2963392 B	18-10-1999
			JP 9027396 A	28-01-1997
EP 0821395	A	28-01-1998	JP 10041096 A	13-02-1998
			JP 10112400 A	28-04-1998
EP 0814495	A	29-12-1997	US 5891350 A	06-04-1999
			JP 10070109 A	10-03-1998
EP 0678903	A	25-10-1995	JP 7297175 A	10-11-1995
			JP 7302786 A	14-11-1995
			JP 7321097 A	08-12-1995
			JP 7331445 A	19-12-1995
			EP 0930642 A	21-07-1999
			SG 32337 A	13-08-1996
			US 5900103 A	04-05-1999
			US 5698062 A	16-12-1997



RECEIVED

JUL 18 2000

IC 1700 MAIL ROOM